

Resources- Natural Capital

Resource = only bc. a resource when humans want it.

3.2.1 Explain the concept of resources in terms of natural income.

◦ Natural capital → Raw materials from the environment

↓
made into products & services (Natural income)

↓
used by consumers
(goods & services)

* The resource is

CAPITAL

→ Income
↑
if you over use
than you Reduce
your capital.

you can only
use the interest

↑
Sustainable
yield.

→ goods & services

◦ goods → marketable commodities "STUFF"

◦ Services → ecological services → "function"

ex. flood prevention, climate stabilization, & water filtration

Ecosystem

TABLE 3.3 ECOSYSTEM TYPES AND SERVICES THEY PROVIDE

<u>Ecosystem</u>	/Service provided & Goods										
	Fresh water	Food	Timber and fibre	New products	Regulate diversity	Cycle nutrients	Quality air and climate	Human health	Detox	Regulate hazards	Cultural
Cultivated (Agricult.)		✓	✓	✓	✓	✓	✓				✓
Dryland		✓		✓	✓	✓	✓	✓	✓		✓
Forest	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
urban		✓			✓		✓	✓	✓		✓
Lakes & Rivers	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
coastal	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Marine		✓		✓	✓	✓	✓		✓		✓
polar	✓	✓			✓		✓				✓
Mountain	✓	✓			✓		✓			✓	✓
Island		✓			✓		✓				✓

Source: Adapted from Pagiola S, von Ritter K, Bishop J. How much is an ecosystem worth? Assessing the economic value of conservation. The International Bank for Reconstruction and Development (World Bank), 2004

goods

Services

3.2.2 Define the terms renewable, replenishable, and non-renewable natural capital

- Renewable - Living species & ecosystems which can be replaced by natural productivity as fast as they are used.
→ Have a sustainable yield/harvest \leq natural productivity

ex. Solar energy, Biomass energy, wind energy, geothermal energy, hydropower energy.

- Replenishable - Non-living resources which are continuously restored by natural processes as fast as they are used up.

→ Natural capital never diminished.

→ Depend on Abiotic Processes.

ex. Ozone layer, Rivers & lakes, gd. H_2O

TAKES LONG TIME TO RENEW

- Non-renewable - Natural resources which can't be replenished within a timescale of the same order at which they are used.

→ Depletion of Natural Capital.

ex. Fossil Fuels (oil, coal, nuclear, natural gas), minerals
↑
not F.F.

3.2.3 Explain the dynamic nature of the concept of a resource

A Resource's desirability changes over time.

↳ Importance changes due to cultural & technological changes.

ex. FLINT → was important to make arrowheads But now not needed.

ex. Heavy Metals → weren't used But electronics need them.

ex. Uranium → not needed / used until Nuclear age.

↳ Resources can be valued in several ways:

- Economic - worth \$ - can sell
- Ecological - provide life support services (gas exchange & H_2O)
- Scientific/Technological - useful for applications (genetic / medicinal)
- Intrinsic - Having cultural, esthetic, spiritual or philosophical Value